

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing (day/month/year)	29.11.2005
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Applicant's or agent's file reference  
10019235WO01

**FOR FURTHER ACTION**

See paragraph 2 below

International application No. PCT/JP2005/014146	International filing date (day/month/year) 27.07.2005	Priority date (day/month/year) 30.07.2004
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International Patent Classification (IPC) or both national classification and IPC  
Int.Cl. **G01N21/35** (2006. 01), **G01N22/00** (2006. 01), **G01N13/14** (2006. 01), **G12B21/06** (2006. 01)

Applicant

CANON KABUSHIKI KAISHA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Date of completion of this opinion	14.11.2005
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Name and mailing address of the ISA/JP

**Japan Patent Office**

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/014146

**Box No. I      Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of:  
☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
  
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  
  - b. format of material  
☐ on paper  
☐ in electronic form
  
  - c. time of filing/furnishing  
☐ contained in the international application as filed  
☐ filed together with the international application in electronic form  
☐ furnished subsequently to this Authority for the purposes of search
  
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
  
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/014146

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations:

Documents cited in the international search report:

1. JP 2003-509692 A (SIGNATURE BIOSCIENCE, INC.) 2003.03.11, Full text
2. JP 2002-502028 A (SIGNATURE BIOSCIENCE, INC.) 2002.01.22, Full text
3. JP 5-188013 A (MILES INCORPORATED) 1993.07.27, Full text
4. JP 2004-500546 A (Teraview Limited) 2004.01.08, Full text
5. O. Mitrofanov, et al., Terahertz near-field microscopy based on a collection mode detector, Appl. Phys. Lett. Vol. 77, No. 22, 2000, p. 3496-3498
6. Hou-Tong Chen, et al., Terahertz imaging with nanometer resolution, Appl. Phys. Lett. Vol. 83, No. 15, 2003, p. 3009-3011
7. U. Schade, et al., THz near-field imaging employing synchrotron radiation, Appl. Phys. Lett. Vol. 84, No. 8, 2004.02.23, p. 1422-1424
8. O. Mitrofanov, et al., Study of single-cycle pulse propagation inside a terahertz near-field probe, Appl. Phys. Lett. Vol. 78, No. 2, 2001, p. 252-254
9. Tatsuo NOZOKIDO, et al., Scanning Near-Field Millimeter-Wave Microscope, Laser Kenkyu, VOL. 26, NO. 7, 1998, p.546-550
10. Torsten Pfeifer, et al., Electro-Optic Near-Field Mapping of Planar Resonators, IEEE TRANSACTION ON ANTENNAS AND PROPAGATION, VOL. 46, NO. 2, 1998, p. 284-291
11. S. Hunsche, et al., Near-field time-resolved imaging with far-infrared dipole sources, Conference on Lasers and Electro-Optics '98 TECHNICAL DIGEST, 1998, p. 64-65

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/014146

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V.2 Citations and explanations

12. Masahiko Tani, et al., Application of THz radiation to imaging  
- Research and development in Japan, US and Europe, 2002 Nen Densi  
Jyoho Tsushin Gakkai Sogo Taikai Koen Ronbunshu Electronics 1,  
2002, p.491-492

**Claim 1-14**

The documents cited in the international search report disclose a sensing apparatus for detecting physical property values of an object using a high frequency electromagnetic wave in a millimeter-wave to terahertz-wave region.

The subject matter of claim 1 and 12, however, is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art.

Claims 2-11, 13, 14 are dependent on claim 1 or 12 and as such also meet the requirements with respect to novelty and inventive step.